Boomers vs. Millennials: Who Owes How Much to Whom?

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Boomers vs Millennials: Who Owes How Much to Whom?

• “Boomer-blaming” debate
  ✓ Millennials accuse (e.g., *How the Baby Boomers Stole the Millennials’ Economic Future*, 2019)
  ✓ Boomers defend (e.g., *Stop Mugging Grandma*, 2019)
  ✓ Taiwan’s “Lost Generation” of c1978-c1993, victimized by widened wealth gap

• We use NTA data to answer a simple (economic) question
  ✓ “Do some cohorts transfer more resources to other cohorts than they receive in lifetime?”
  ✓ Specifically, “Does a Millennial lose out relative to a Boomer, and by how much?”

• Findings
  ✓ We measure the net intergenerational transfer flows of two cohorts
  ✓ To our surprise, the Millennials may not be losers relative to Boomers.
    → How robust is this finding? If robust, why does it contradict popular impression?
Method: lifetime intergenerational transfers

- **Intergenerational Transfers** = Net Public Transfers + Net Private Transfers
- **Public Transfers** (not including the budget balancing term, TGDS, in NTA)
  - public inflows = in-kind transfers + social benefits + other cash benefit
  - public outflows = taxes + social contributions + other cash payments
- **Private Transfers** (not yet including inter-household transfers, which are rather small anyway)
  - intra-household transfer inflows
  - Intra-household transfer outflows
Data: Two cohorts are compared

• **c1981**: 36 yrs (annual data) + 55 yrs (forward projections, following GA method)

• **c1951**: 30 yrs (backward projection) + 36 yrs + 25 yrs (forward projections)
Background

- Rapid changes in Taiwan in the last 7 decades
  - **Economic growth:** average GDP per capita grew at 16.6% (1950s) → 3% (2010s);
    in real terms, 4.8% (1950s) → 2.6% (2010s);
    longer schooling years, higher health spending,…
  - **Welfare:** few social programs in the beginning, more are launched,
    but some are overly generous, and pension reforms began since 2019
  - **Demography:** TFR 5.75 (1960) → 1.06 (2018), once 0.895 (2010);
  - **family:** 5.24 persons per household (1976) → 3.05 (2018);
    intra-household transfers shift towards kids along family nuclearization
Result 1: Net intergenerational transfers

Calendar Year 2016, per capita

Cohort of 1951, nominal, per capita

Need to discount!

2016
Discounted at 3% (2016 value)

Discounted at 7% (2016 value)
Result 2: Lifetime intergenerational transfers

<table>
<thead>
<tr>
<th>Survival rate adjusted</th>
<th>Discount rate = 3%</th>
<th>Discount rate = 7%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>c1951</td>
<td>c1981</td>
</tr>
<tr>
<td>Private Transfers</td>
<td>-2,719,975</td>
<td>822,091</td>
</tr>
<tr>
<td>Public Transfers</td>
<td>165,706</td>
<td>1,941,350</td>
</tr>
<tr>
<td>Total Intergenerational Transfers</td>
<td>-2,554,269</td>
<td>2,763,441</td>
</tr>
</tbody>
</table>

• At both 3% and 7%, c1981 receives POSITIVE lifetime intergenerational transfers, while c1951 is a net payer in its lifetime!
→ This is the opposite of popular belief. How robust is this finding?
Is this result reasonable?

• 3%, 5%, 7% are numbers often used (Auerbach, 1999)
  ✓ though US CEA (2017) recommends a lower number for today

• Yet neither 3% or 7% seems right for Taiwan
  ✓ For either $\rho = 3\%$ or $\rho = 7\%$, the pre-1981 part of c1951 is still tiny
  ✓ For $\rho = 7\%$, the post-2016 part of both c1951 and c1981 also looks small
Discounted at 3% (2016 value)

Pre-1981

c1951

Discounted at 7% (2016 value)

Post-2016

c1951

c1981

c1981

Public

Private
Economic performance of Taiwan
Choosing the discount rate

• A common approach: Social Rate of Time Preference
  ✓ Ramsey (1928) equation, extended by Mankiw (1981)
    \[ \rho_t = \delta + \gamma g_t - \text{uncertainties} \]
    i.e., \( \rho_t = f(\text{survival rate, risk aversion, econ growth rate, uncertainty, ...}) \)
  ✓ Note that in the textbook, there is usually a subscript \( t \) for \( \rho \)

• Empirically, time preference schedule is sometimes non-linear (e.g., Ogawa, 1996)

• Discount rate experiments
  ✓ fixed (\( \bar{\rho} \)): 3%, 5%, 7%, …
  ✓ time-varying (\( \rho_t \)): interest rate, GDP deflator, **GDP per capita growth rate** (\( g_t \)), …
  ✓ Here two cases are reported: \( g_t \) and 3%
### Result 3: Discount at non-constant rate

<table>
<thead>
<tr>
<th>Discount rate</th>
<th>( \bar{\rho} = 3% )</th>
<th>( \rho_t = g_t )</th>
</tr>
</thead>
<tbody>
<tr>
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- When \( \rho_t = g_t \), c1951 receives POSITIVE, not negative, transfers in its lifetime.
- However, c1981 still receives more net transfers than c1951.
Result 4: Magnitude of the transfers

• For ease of comparison, we calculate these values as % of lifetime labor income
• Still, c1981 receives a higher rate of total intergenerational transfers, and this is so in many (but not all) cases at the more detailed level.

<table>
<thead>
<tr>
<th>sector</th>
<th>age group</th>
<th>( \bar{\rho} = 3% )</th>
<th>( \rho_t = g_t )</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>c1951</td>
<td>c1981</td>
</tr>
<tr>
<td>Private</td>
<td>0-19</td>
<td>1.18%</td>
<td>15.76%</td>
</tr>
<tr>
<td>transfers</td>
<td>20-59</td>
<td>-24.17%</td>
<td>-16.58%</td>
</tr>
<tr>
<td></td>
<td>60-90⁺</td>
<td>8.05%</td>
<td>3.95%</td>
</tr>
<tr>
<td>Public</td>
<td>0-19</td>
<td>0.55%</td>
<td>7.47%</td>
</tr>
<tr>
<td>transfers</td>
<td>20-59</td>
<td>-15.27%</td>
<td>-10.76%</td>
</tr>
<tr>
<td></td>
<td>60-90⁺</td>
<td>15.63%</td>
<td>10.66%</td>
</tr>
<tr>
<td>Total</td>
<td>0-90⁺</td>
<td>-14.04%</td>
<td>10.49%</td>
</tr>
</tbody>
</table>
\[ \overline{\rho} = 3\% \text{ (2016 value)} \]

\[ \rho_t = g_t \text{ (2016 value)} \]
Discussion 1

• Is c1981 a “loser” in intergenerational transfers, as commonly thought?
  
  NO.
  
  ✓ The c1981 receives more transfers than it gives to other generations,
  
  ✓ The c1981 receives more than c1951, in present value, as well as in ratio
  
  ✓ The above statements hold true, whether the discount rate is fixed or time-varying
Discussion 2

• Why does c1981 receive more transfers than c1951?
  Rapid social, economic and institutional changes matter (note that, by using $g_t$ to
discount, the “income effect” is already taken care of).
  ✓ The c1981 received more transfers at childhood, due to education expansion and family
    nuclearization
  ✓ The c1981 will receive larger amount of public pensions, because of new social programs,
    e.g., National Pension since 2008
  ✓ As for age 20-59, the c1981 pays a lower tax rate, but mostly for accounting reasons:
    they spent more years in schools and started working (and paying taxes) later;
    also their lifetime labor income is higher, making their tax rates look smaller.
Discussion 3

• Why does our finding contradict popular impression?
  ✓ We measure lifetime transfers, yet an individual may care more about specific instants:
    In 2016, the c1981 (aged 35) is starting to face the hardships as a “net payer”,
    whereas the c1951 (aged 65) has just entered the life stage to enjoy net inflows.
  ✓ We measure intergenerational transfers only, yet
    an individual may considers all types of transfers, including asset reallocation
  ✓ Moreover, we consider current/known flows and situations, yet there are also
    worsened wealth gap, between and within cohorts,
    upcoming reforms (e.g., Labor Pension Reform and Long-term Care Insurance),
    escalated uncertainties in the post-covid 19 era

• More work to do…